

NATIONAL SECURITY

Providing for National Security in a Changing World

Lawrence Livermore National Laboratory was established in 1952 to help ensure national security through the design, development, and stewardship of nuclear weapons. National security continues to be the Laboratory's defining responsibility.

The breakup of the Soviet Union brought an end to the Cold War. However, threats to international security remain, and global interests keep the United States actively engaged in world events. The U.S. is committed to halting the spread of chemical, biological, and nuclear weapons worldwide while maintaining sufficient nuclear forces to deter any adversary. The Laboratory contributes to these important endeavors.

Now a Part of the New NNSA

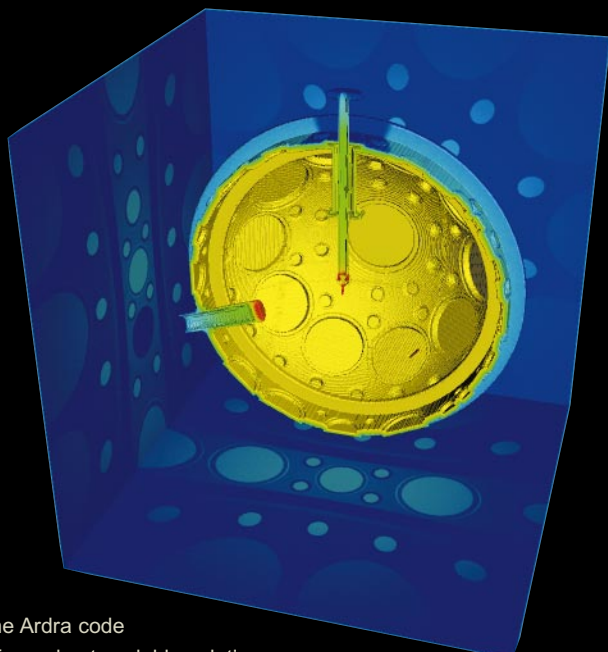
Livermore is one of three national security laboratories that are part of the new National Nuclear Security Administration (NNSA) within DOE. Created through Congressional legislation enacted in 1999, the NNSA formally starts operation in March 2000. The NNSA will bring together DOE's national security functions and give them a clear focus.

Safe and Reliable Nuclear Weapons

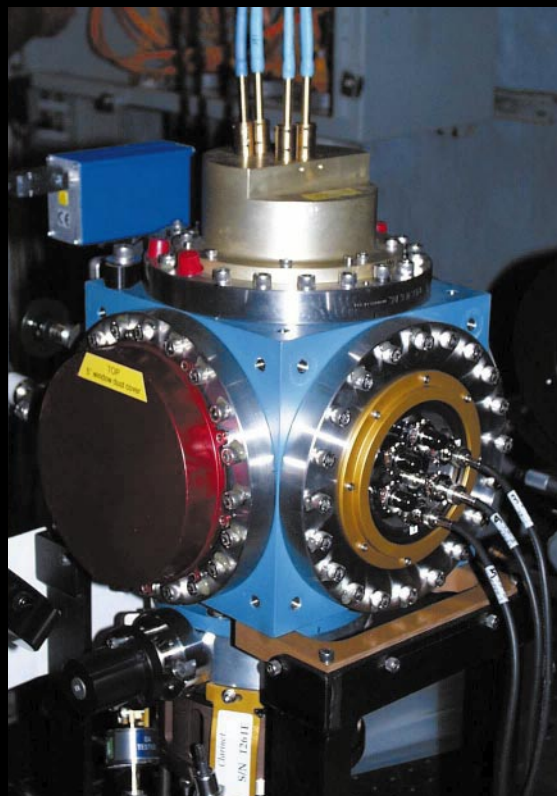
As one of the DOE National Nuclear Security Administration laboratories, Livermore plays a prominent role in the Stockpile Stewardship Program for maintaining the safety and reliability of the nation's nuclear weapons in the absence of nuclear testing. At the Laboratory, we are attending to the immediate needs of the stockpile by using a combination of laboratory experiments and computer simulations as a basis for performance assessments and certification. We are also acquiring more



Technicians assemble equipment used to dispose of plutonium from dismantled weapons. At Livermore's plutonium facility, we support the Stockpile Stewardship Program with basic research on the properties of plutonium so we can better understand how it ages and develop improved methods to process the material. The facility is also central to DOE's program to immobilize and dispose of excess U.S. plutonium.



The Ardra code offers robust scalable solution methods for neutron and radiation transport problems in three-dimensional geometries such as this calculation of a laser fusion target chamber.



This assembly was part of the subcritical experiment Clarinet, which was successfully conducted in an underground complex at the Nevada Test Site. It was the third in a series of experiments to study plutonium properties under extreme conditions.

powerful experimental and computational tools to address the more challenging issues that will arise as the nation's nuclear weapons stockpile continues to age.

Proliferation Prevention and Arms Control

The Laboratory is addressing the increasingly serious problem of the proliferation of chemical, biological, and nuclear weapons through a wide spectrum of analysis and technology development activities. In addition, Livermore provides the

government with technical information and assistance to support the development of national policy on nuclear weapons, nonproliferation, and arms control matters.

Technology for New Military Requirements

Building on the scientific and technical capabilities needed for the Laboratory's stockpile stewardship and nonproliferation missions, Livermore develops advanced defense technologies for the Department of Defense to increase the effectiveness of U.S. military forces.